

REMARKS

In this response, claim 22 has been amended and claims 51-52 have been added. Accordingly, claims 22-37, 51, and 52 remain pending in the case. Further examination and reconsideration of the presently claimed application are respectfully requested.

Section 102 Rejections

Claims 22, 23, 26, 27, and 31 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,886,672 to Brunc et al. (hereinafter "Rodrigues"). In addition, claims 22-25, 28, 29, 31, and 32 were rejected under 35 U.S.C. § 102(c) as being anticipated by U.S. Application No. 2003/0034931A1 to Shepherd et al. (hereinafter "Shepherd"). The standard for "anticipation" is one of fairly strict identity. A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegual Bros. v. Union Oil Co. Of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), MPEP 2131. None of the cited art discloses all limitations of the currently pending claims, some distinctive limitations of which are set forth in more detail below.

None of the cited art discloses a cable guide arranged inside a monolithic first conductor, where the cable guide extends in a continuous manner along an entire length of the first conductor and is either formed within or attached to the first conductor, such that no surface of the cable guide is penetrated by mounting holes formed within the pair of opposed parallel surfaces of the first conductor; the mounting holes being used for attaching at least one antenna element to the first conductor. Amended claim 22 recites in part:

An antenna, comprising: a monolithic first conductor having a pair of opposed parallel surfaces and a cable guide arranged inside the first conductor, wherein the cable guide extends in a continuous manner along an entire length of the first conductor and is either formed within or attached to the first conductor, such that no surface of the cable guide is penetrated by one or more mounting holes formed within the pair of opposed parallel surfaces of the first conductor... at least one conductive antenna element attached to one of the opposed parallel surfaces of the first conductor via one of the mounting holes.

Support for these limitations may be found, for example, on page 11, lines 3-23; page 13, line 18 to page 14, line 8; page 16, lines 8-27; and in Figs. 2a-7. By utilizing the presently claimed cable guide, the present invention overcomes problems associated with feeding a conductive line or cable through the monolithic first conductor when, e.g., screws are inserted through the mounting holes for attaching the

antenna elements to the first conductor. The presently claimed cable guide may also allow the diameter of the first conductor to be reduced, thereby improving antenna pattern characteristics by allowing close spacing of the conductors (*See, e.g.,* Specification, page 3, line 16 to page 5, line 8; page 13, line 18 to page 14, line 24).

Statements in the Office Action suggest that Brune "teaches in figures 1 and 11 an antenna, comprising: a monolithic first conductor 1 having a pair of opposed parallel surfaces ... a cable guide arranged inside the conductor 1 ... [and] a length of insulated wire or cable 27 arranged within the guide..." (Office Action, page 2). The Applicant respectfully disagrees with the Examiner's assertion that teaching can be found within Brune for the cable guide, as originally claimed. However, in an effort to clarify the form and function of the cable guide, claim 22 has been amended to describe the cable guide as one that extends in a continuous manner along an entire length of the first conductor and is either formed within or attached to the first conductor, such that no surface of the cable guide is penetrated by mounting holes formed within the pair of opposed parallel surfaces of the first conductor. Brune does not provide teaching for such a cable guide, as described in more detail below.

Brune discloses a collapsible antenna with flexible elements. In Fig. 1 of Brune, the collapsible antenna is shown to include a "boom 1 to which is attached a plurality of flexible antenna elements 2," (Brune, col. 4, lines 9-10). Brune suggests that the boom shown in Fig. 1 could have a U-shaped cross-section or any other convenient shape which is sufficiently rigid to support the flexible antenna elements (*see, e.g.,* Brune, col. 4, lines 10-13 and col. 5, lines 34-39). Brune also states that the "flexible antenna elements 2 are attached at their centers to the boom 1 by suitable mechanical means such as screws 4 ... [and the] use of two screws ensure that the flexible antenna elements 2 do not pivot with respect to the boom," (Brune, col. 4, lines 21-31). As such, it is reasonable to assume that mounting holes may be provided within boom 1 for securing the antenna elements using the screws, and that the mounting holes would extend through one or more sidewalls of the boom.

The antenna as shown in Fig. 1 of Brune does not include a cable guide, which extends in a continuous manner along an entire length of the boom (i.e., the alleged "first conductor") and is either formed within or attached to the first conductor, such that no surface of the cable guide is penetrated by mounting holes formed within the opposed parallel surfaces of the first conductor. If one were to falsely equate the boom (1) shown in Fig. 1 of Brune to the presently claimed cable guide, the mounting holes needed for securing the antenna elements (2) to the boom would penetrate one or more surfaces of the

boom (the proposed "cable guide"). For at least this reason, the boom (1) shown in Fig. 1 of Brunc cannot be considered equivalent to the presently claimed cable guide.

In Fig. 11, Brunc discloses that an anchoring block (17) may be positioned within the boom (1) for receiving one of the antenna elements (2). The antenna element is secured by tightening screws (24), which causes the antenna element to be pressed firmly between a ball bearing (20) and pair of plates (26). The screws (24) are inserted within a bore (21), or "mounting hole", which extends through the sidewalls of the boom and anchoring block. In addition, Brunc discloses that a coaxial cable (27) may extend through an inner lumen of the boom and may be electrically connected to the antenna element via plates (26). *See, e.g., Brunc, col. 7, line 23 to col. 8, line 45.*

However, the antenna as shown in Fig. 11 of Brunc does not and cannot be considered to include a cable guide, as presently claimed. As noted above, for example, the boom (1) shown in Fig. 11 cannot be considered equivalent to the presently claimed cable guide, due to the presence of mounting holes (e.g., bores 21 in Fig. 11), which would necessarily penetrate at least one surface of the proposed "cable guide." In addition, though plates (26) could be used for securing, or possibly directing, the coaxial cable (27) within the boom, the plates do not extend in a continuous manner along an entire length of the boom, and therefore, cannot be considered equivalent to the presently claimed cable guide.

Therefore, unlike the presently claimed case, Brunc simply fails to provide teaching for a cable guide, which extends in a continuous manner along an entire length of the first conductor and is either formed within or attached to the first conductor, such that no surface of the cable guide is penetrated by mounting holes formed within the pair of opposed parallel surfaces of the first conductor. For at least these reasons, the teachings of Brunc cannot be relied upon to anticipate all limitations of present claim 22.

Statements in the Office Action further suggest that Shepherd "teaches in figures 1 and 4b an antenna, comprising: a monolithic first conductor 28, 30 having a pair of opposed parallel surfaces... a cable guide arranged inside the conductor 28, 30 ... [and] a length of insulated wire or cable (figure 4b) arranged within the guide." (Office Action, page 3). Like Brunc, however, Shepherd fails to provide teaching for the presently claimed cable guide. Supporting evidence is provided in more detail below.

In Figs. 1 and 4, Shepherd discloses an antenna with a boom (20), including a plurality of antenna elements (26) connected to a pair of rigid boom conductors (28) and (30). *See, e.g.,* Shepherd, paragraphs 33-35. Shepherd discloses that the boom conductors (28, 30) are composed of a hollow tube (40, 44) of rectangular cross-section and a hollow tapered tip (42, 46). *See, Shepherd, paragraph 37.* In addition, Shepherd discloses that at least some of the antenna elements (e.g., longer elements 32-38) are "threaded at their inner ends and... secured to the tubes of the boom by means of nuts", such as nut 48 of Fig. 4 (*See, Shepherd, paragraphs 37-38*). Therefore, it is clear that at least some of the antenna elements are attached to the boom through mounting holes extending through the sidewall surfaces of the boom conductors (28, 30).

Like Brune, Shepherd fails to provide teaching for a cable guide, which extends in a continuous manner along an entire length of the first conductor and is either formed within or attached to the first conductor, such that no surface of the cable guide is penetrated by mounting holes formed within the pair of opposed parallel surfaces of the first conductor. For example, Shepherd states that a "coaxial line 52 extends longitudinally within tube 44 of the boom", and that the coaxial line may be "clamped to the inner wall of the tube by a series of clamps one of which is seen at 54 in Figs. 4 and 4a." (*Shepherd, paragraph 39*). Though coaxial line 52 may extend through the boom conductors (28, 30) and may be held in place by a series of clamps (54), neither the boom conductors nor the clamps can be considered equivalent to the presently claimed cable guide. For example, though the boom conductors (including hollow tubes 40, 44 and tapered tips 42, 46) may extend in a continuous manner along an entire length of the first conductor, one or more surfaces of the boom conductors are clearly penetrated by one or more mounting holes used to attach the antenna elements to the boom conductors. On the other hand, the clamps fail to extend in a continuous manner along an entire length of the first conductor. Thus, for at least these reasons, neither the clamps nor the boom conductors of Shepherd can be considered equivalent to the presently claimed cable guide.

For at least the reasons set forth above, Brune and Shepherd each fail to anticipate all limitations of independent claim 22. Therefore, claim 22 and claims dependent therefrom are asserted to be patentably distinct over the cited art. Accordingly, removal of this rejection is respectfully requested.

Patentability of Added Claims

The present amendment adds claims 51 and 52. Since claims 51 and 52 are dependent from claim 22, claims 51 and 52 are patentably distinct over the cited art for at least the same reasons as claim 22. Accordingly, allowance of added claims 51 and 52 is respectfully requested.

Allowance of Claims

Applicant sincerely appreciates the Examiner's recognition of the patentable subject matter recited in claims 36 and 37 and awaits allowance of the remaining claims in the case. The Office Action states some reasons for allowance of claims 36 and 37 in the section of the Office Action entitled "Allowable Subject Matter". Applicant asserts that it is the combinations of features in these claims that render the claim distinguishable over the cited art, not just the portions of the claims cited in the Office Action.

Claims 30 and 33-35 were objected to as being dependent upon rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. As stated above, however, base claim 22 is considered to be patentably distinct over the art of record. Since claims 30 and 33-35 are each dependent on claim 22, claims 30 and 33-35 should also be allowable over the art of record for at least the same reasons as claim 22.

CONCLUSION

This response constitutes a complete response to all issues raised in the Office Action mailed on November 3, 2004. In view of the remarks traversing the rejections, Applicants assert that pending claims 22-37 and 51-52 are in condition for allowance. If the Examiner has any questions, comments, or suggestions, the undersigned attorney earnestly requests a telephone conference.

The Commissioner is authorized to charge any additional fees which may be required, or credit any overpayment, to Daffer McDaniel, LLP Deposit Account No. 50-3268/5633-00101.